FIG.1

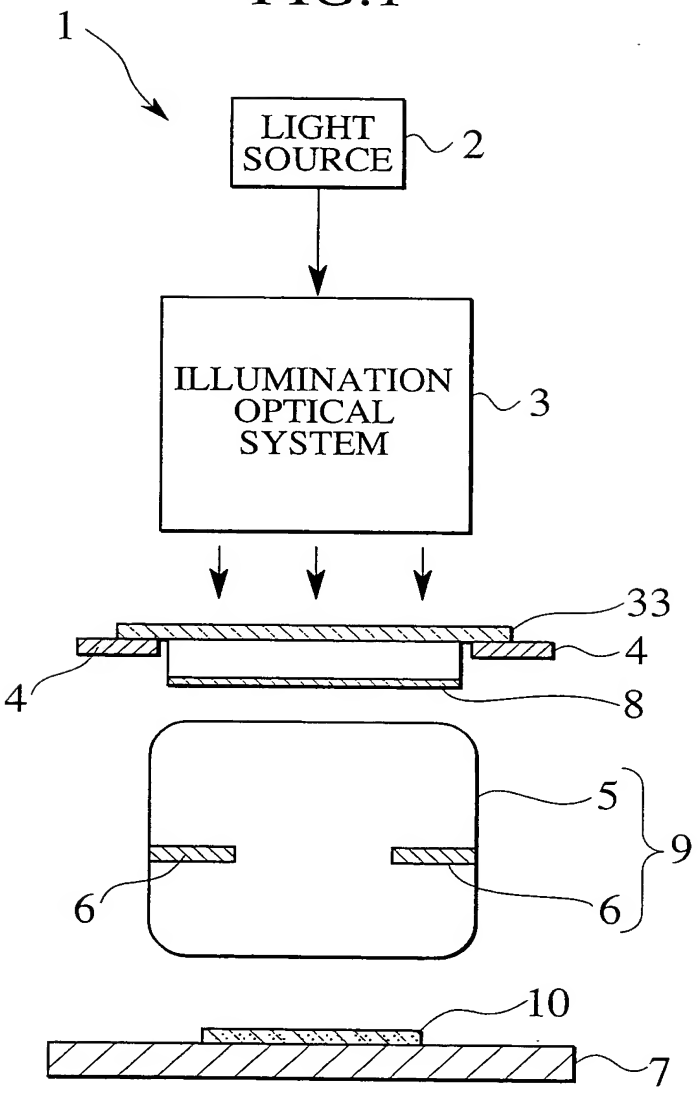
1
LIGHT SOURCE
2
ILLUMINATION OPTICAL SYSTEM
3
33
4
4
8
5
9
6
6
10
7

FIG.2A

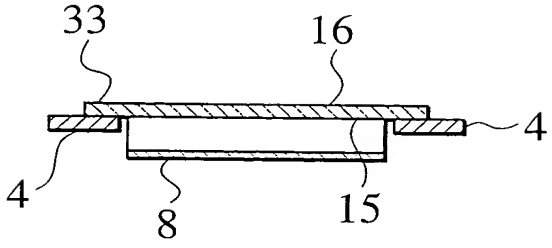

FIG.2B

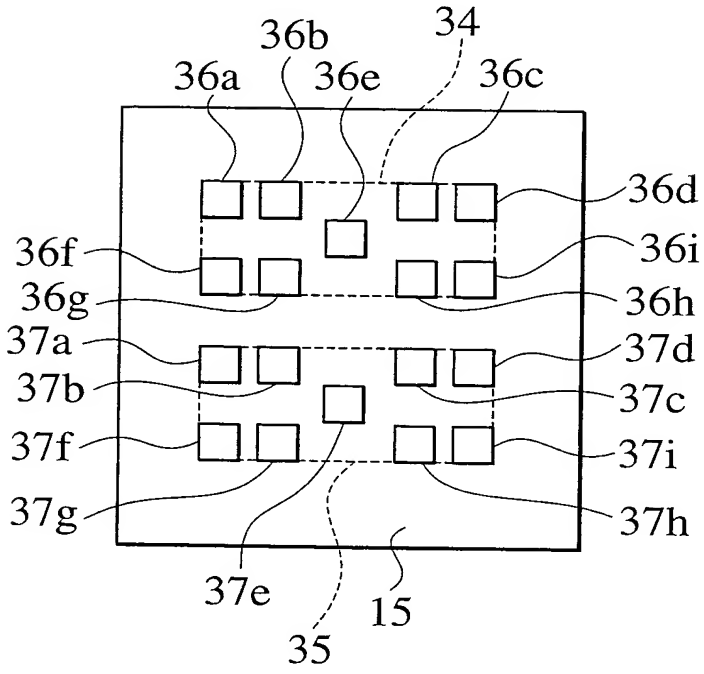

FIG.2C

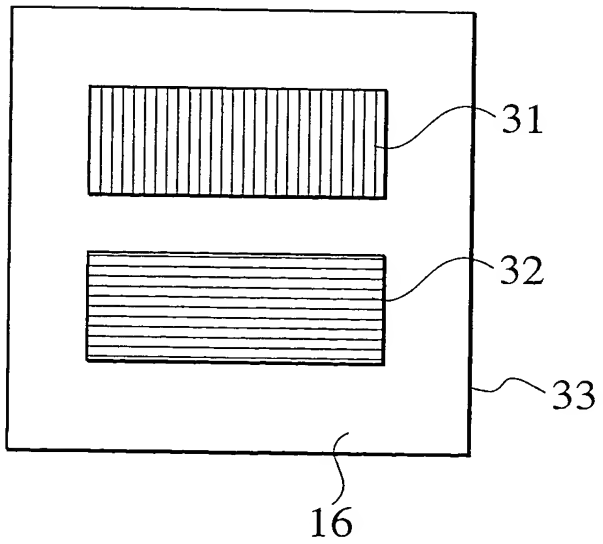

FIG.3A

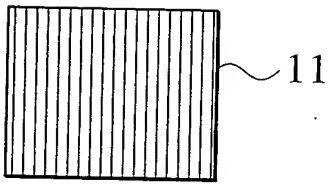

FIG.3B

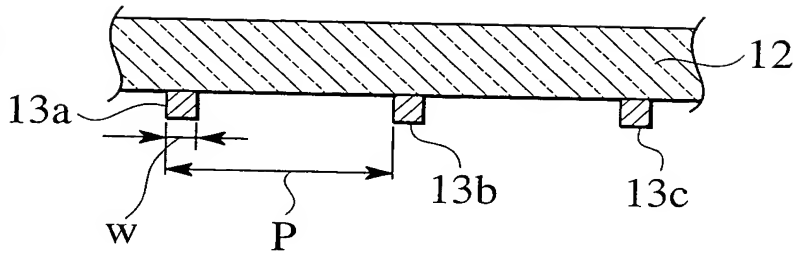

FIG.4A

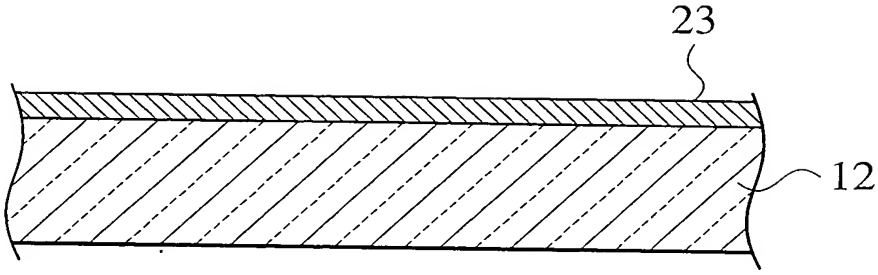

FIG.4B

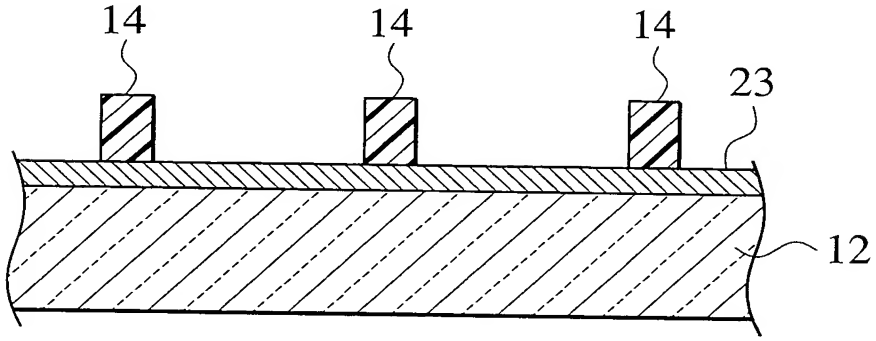

FIG.4C

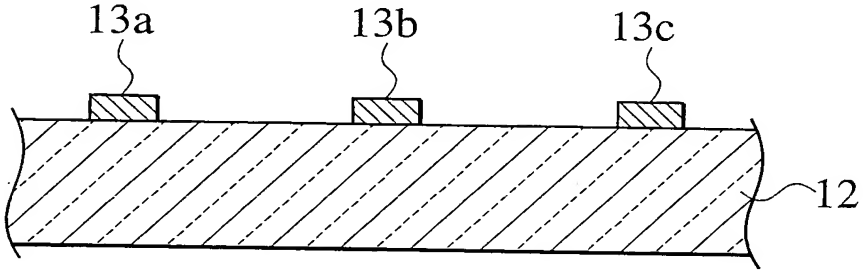

FIG.5A

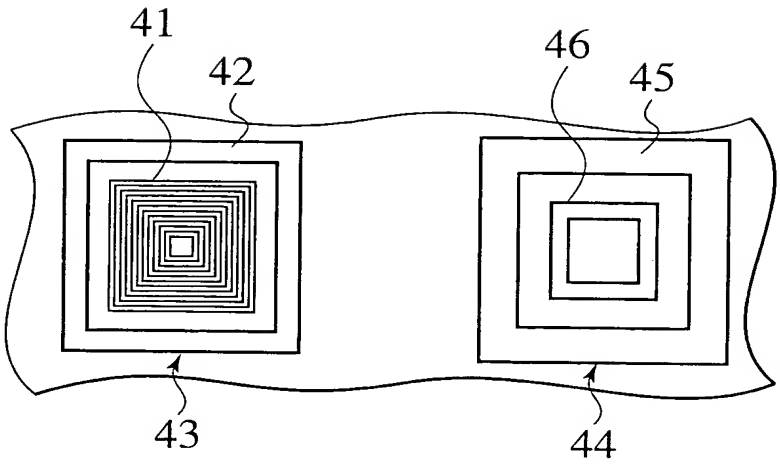

FIG.5B

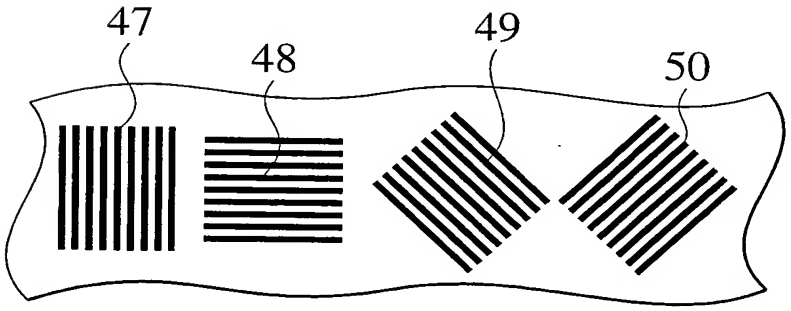

FIG.6

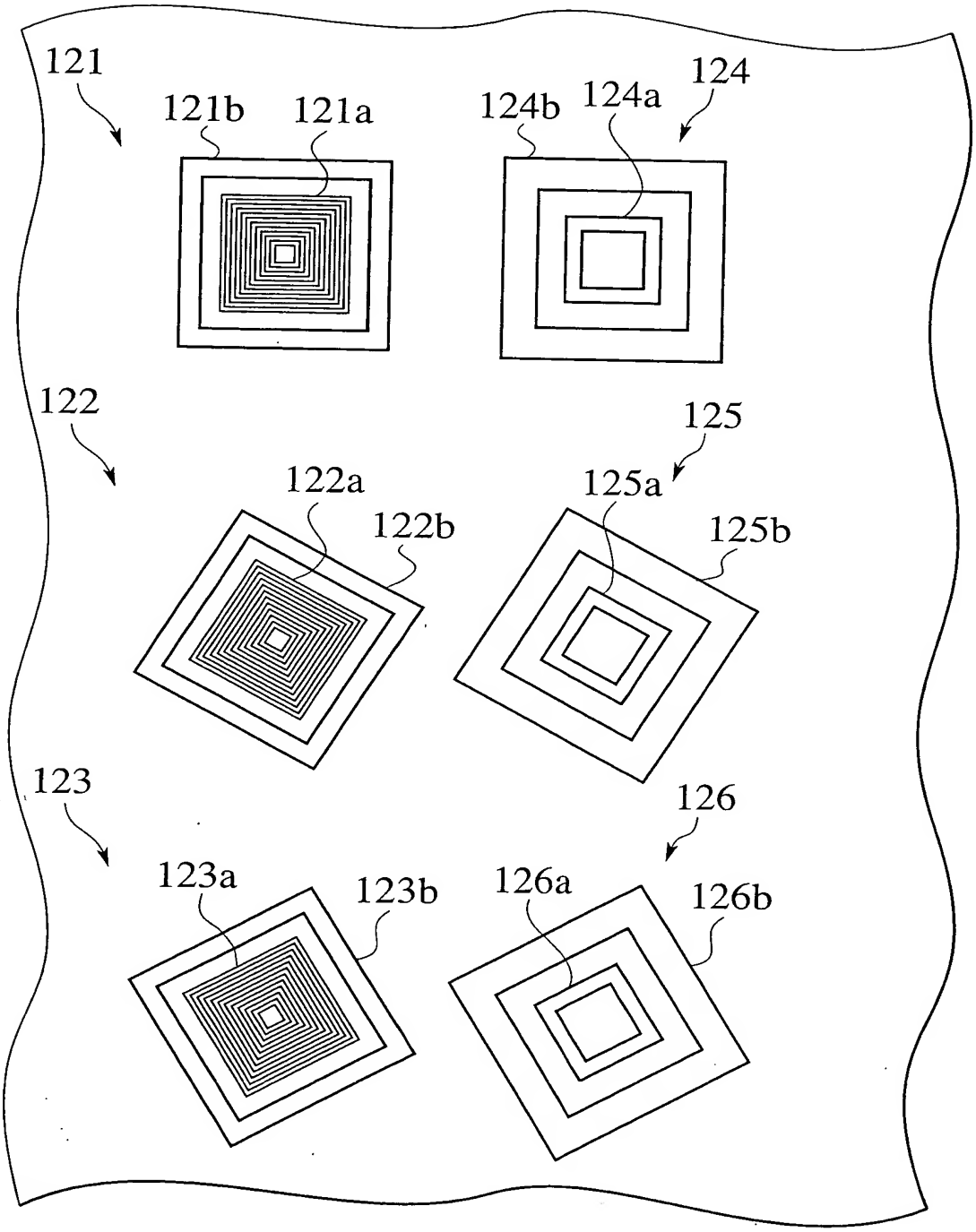
121
121b
121a
124
124b
124a
122
125
122a
122b
125a
125b
123
126
123a
123b
126a
126b

FIG.7

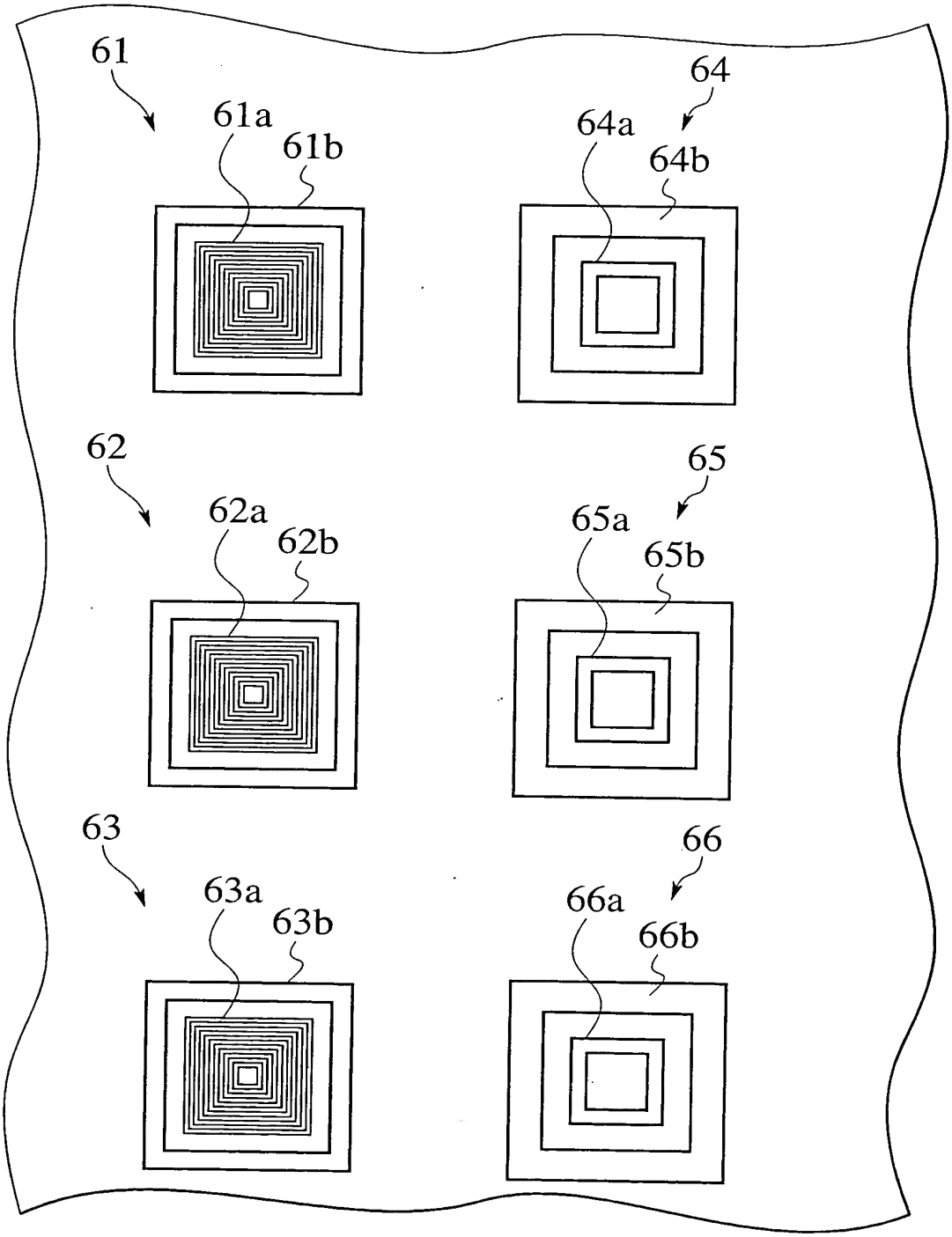

FIG.8

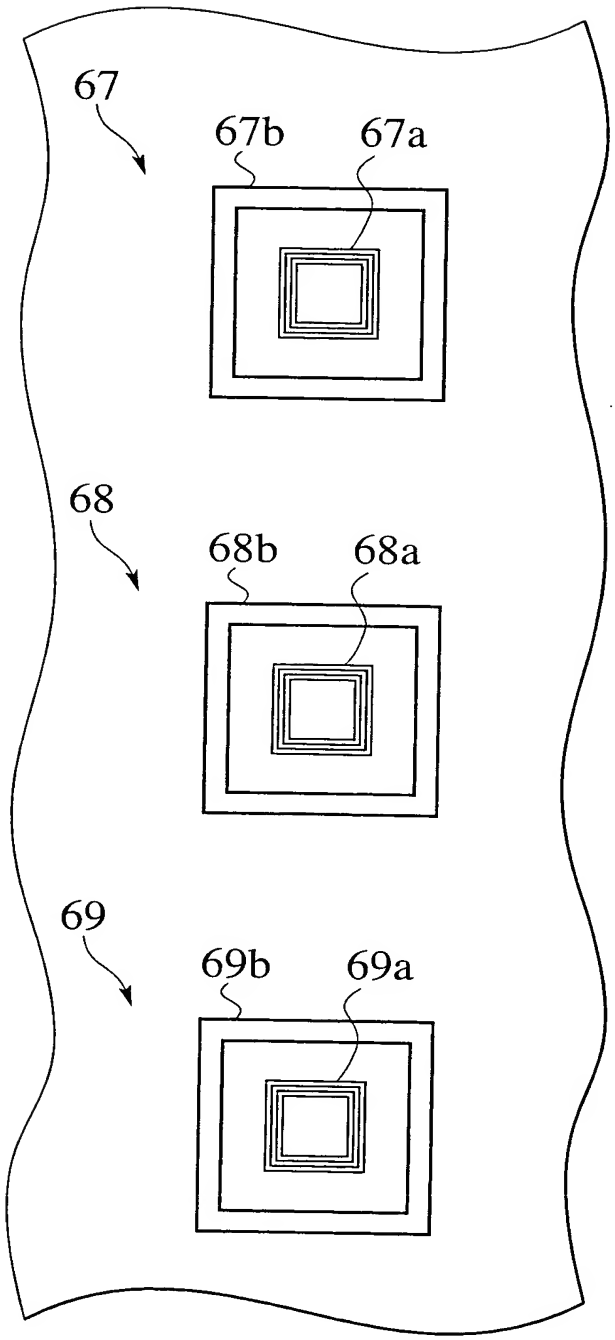

FIG.9

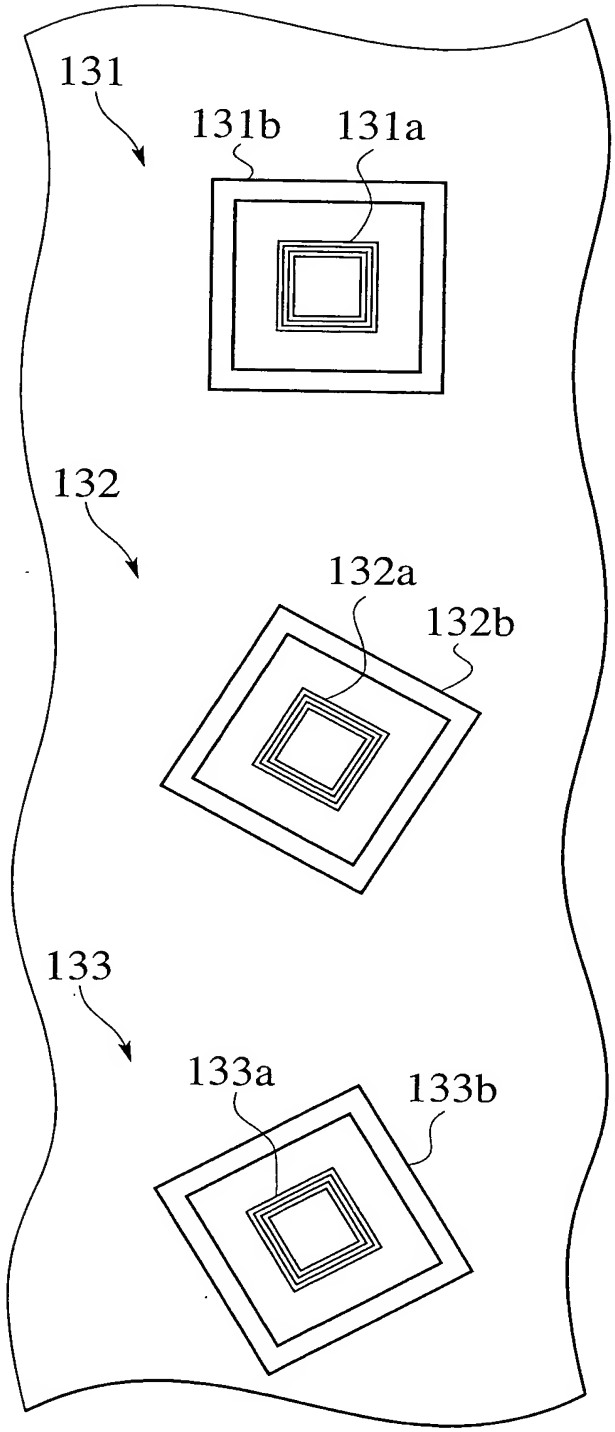

FIG.10A

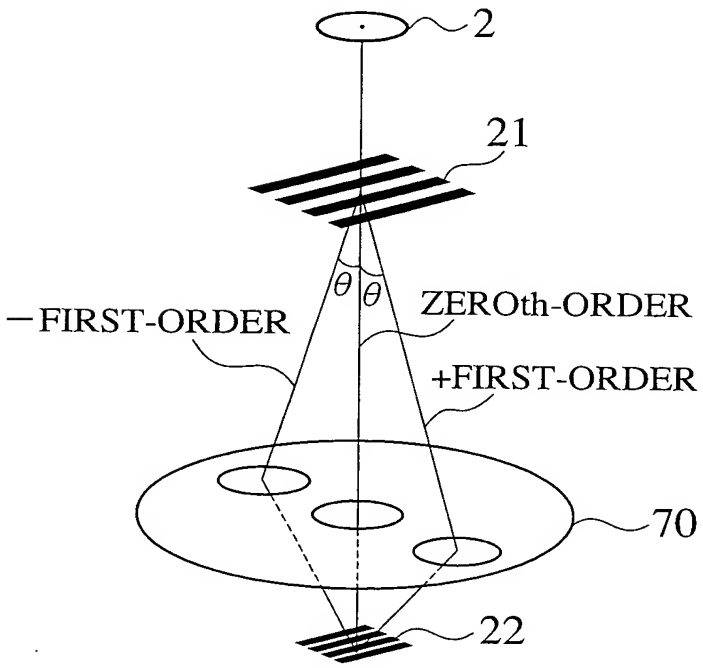

FIG.10B

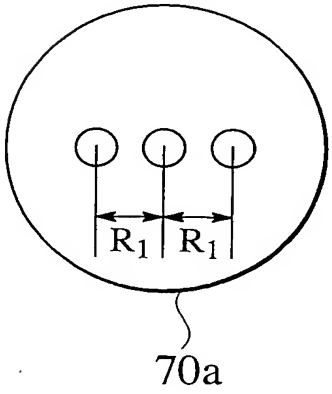

FIG.10C

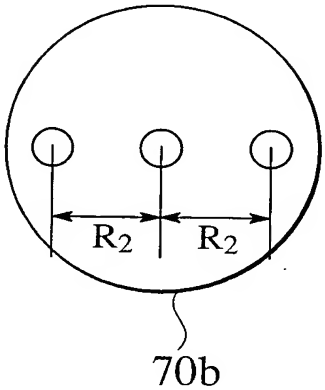

FIG.11

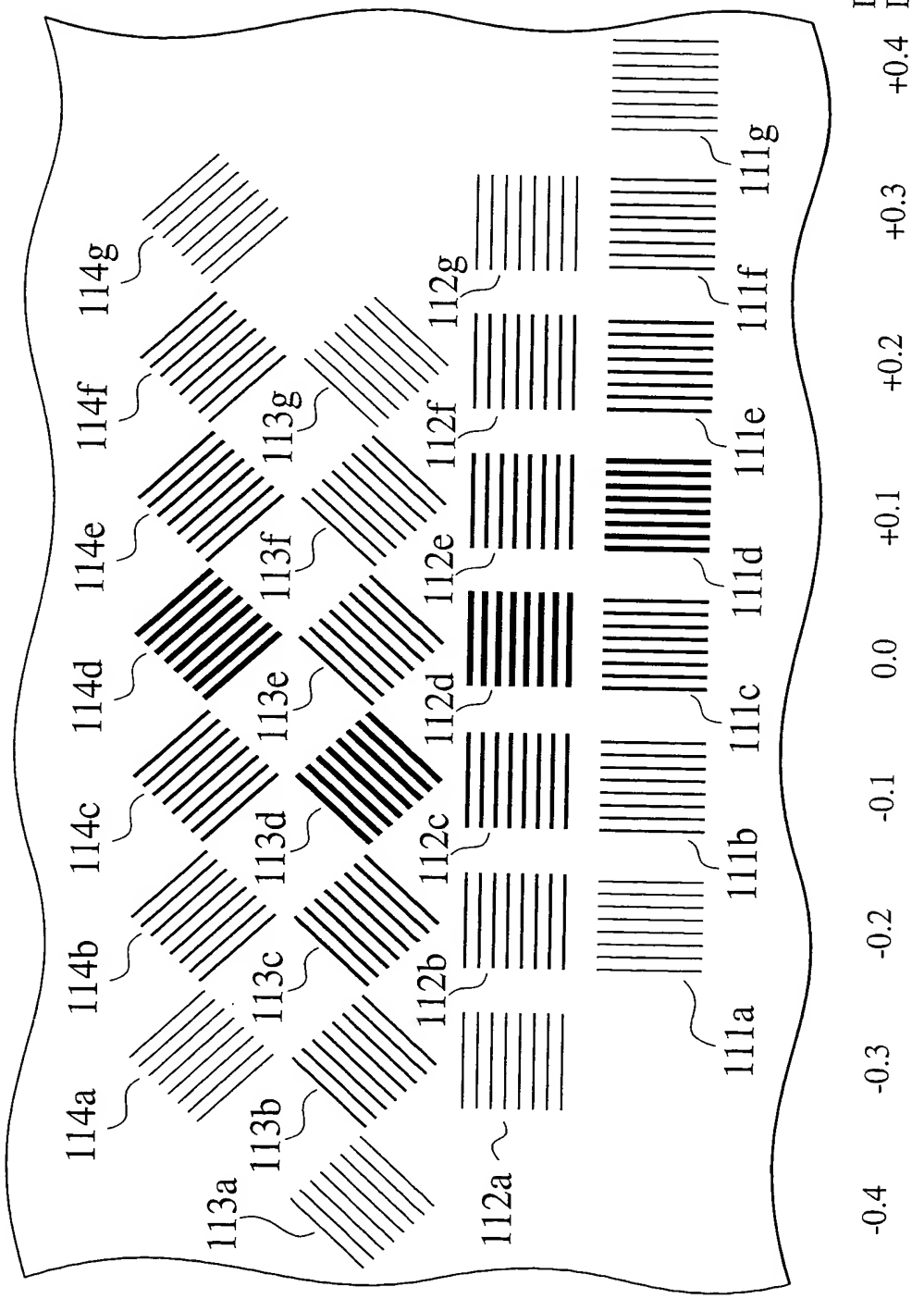
114a
114b
114c
114d
114e
114f
114g
113a
113b
113c
113d
113e
113f
113g
112a
112b
112c
112d
112e
112f
112g
111a
111b
111c
111d
111e
111f
111g
-0.4
-0.3
-0.2
-0.1
0.0
+0.1
+0.2
+0.3
+0.4
DEFOCUS DISTANCE (μm)

FIG.12

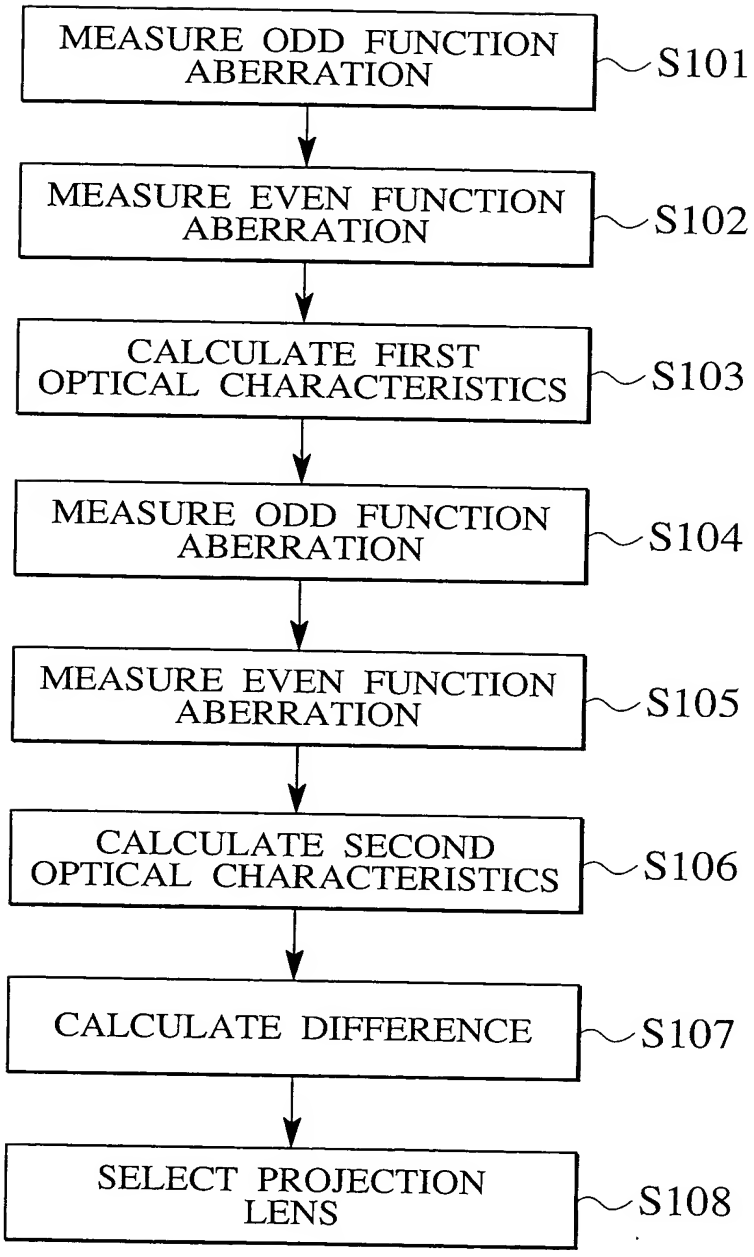
MEASURE ODD FUNCTION ABERRATION
S101
MEASURE EVEN FUNCTION ABERRATION
S102
CALCULATE FIRST OPTICAL CHARACTERISTICS
S103
MEASURE ODD FUNCTION ABERRATION
S104
MEASURE EVEN FUNCTION ABERRATION
S105
CALCULATE SECOND OPTICAL CHARACTERISTICS
S106
CALCULATE DIFFERENCE
S107
SELECT PROJECTION LENS
S108

FIG.13

	TEST 1	TEST 2	DIFFERENCE
ASTIGMATISM a5	10.9	6.0	4.8
ASTIGMATISM a6	6.7	15.8	-9.1
COMA a7	4.2	-2.2	6.4
COMA a8	0.5	-7.3	7.8
SPHERICAL ABERRATION a9	8.5	-2.4	10.9
3 θ ABERRATION a10	0.0	12.0	-12.0
3 θ ABERRATION a11	6.5	0.1	6.4

UNIT : m λ

FIG.14

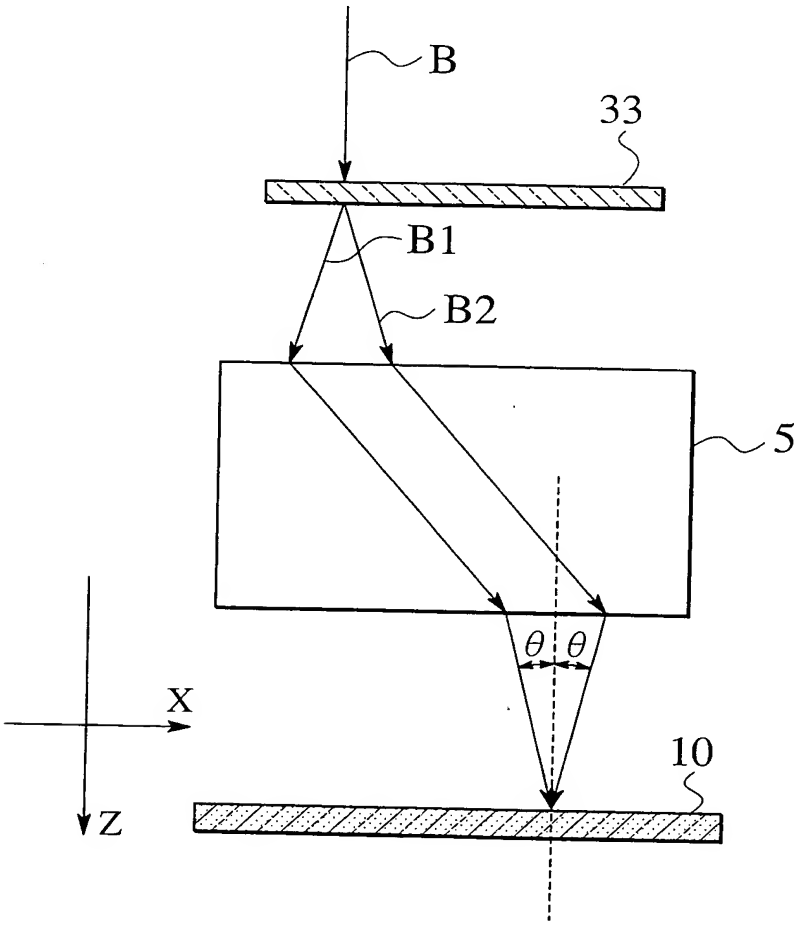

FIG.15A

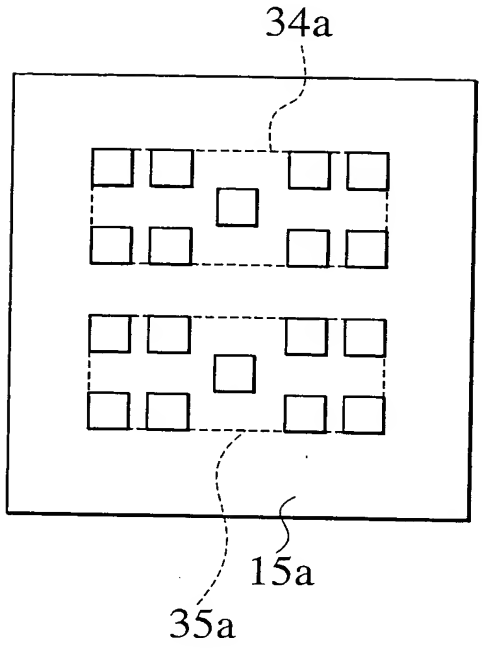

FIG.15B

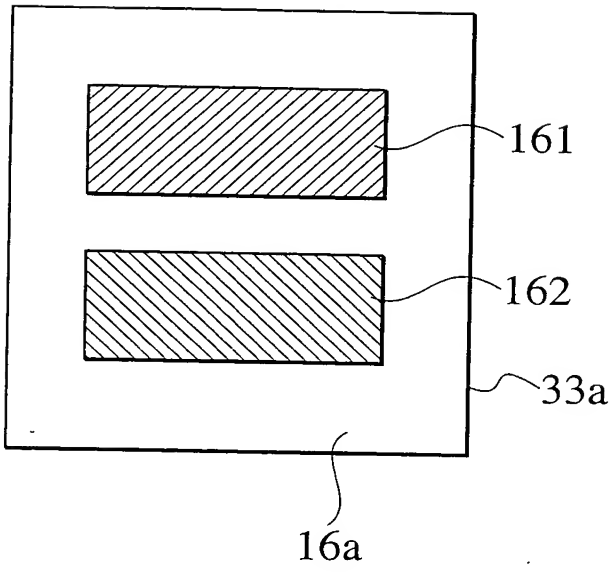

FIG.16A

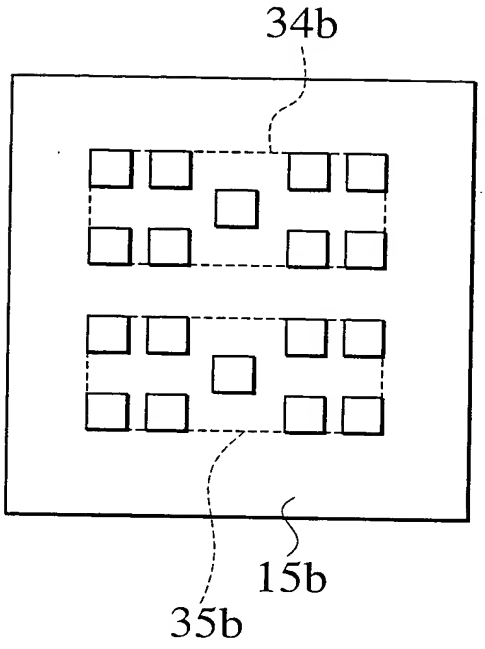

FIG.16B

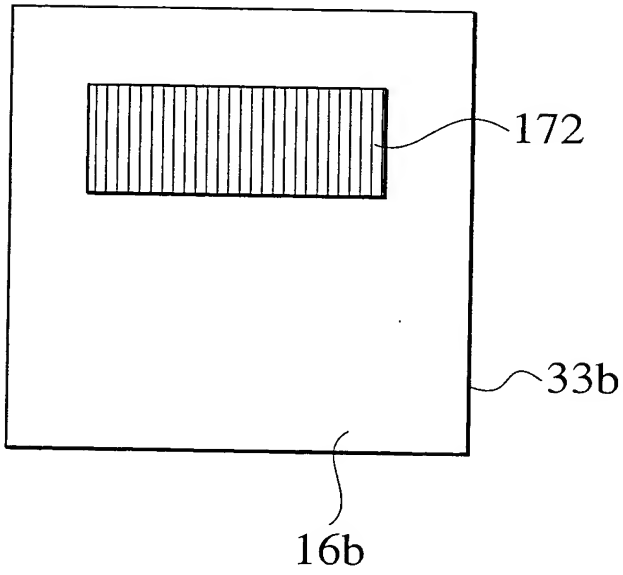

FIG.17A

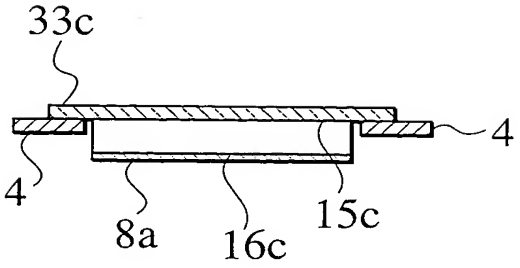

FIG.17B

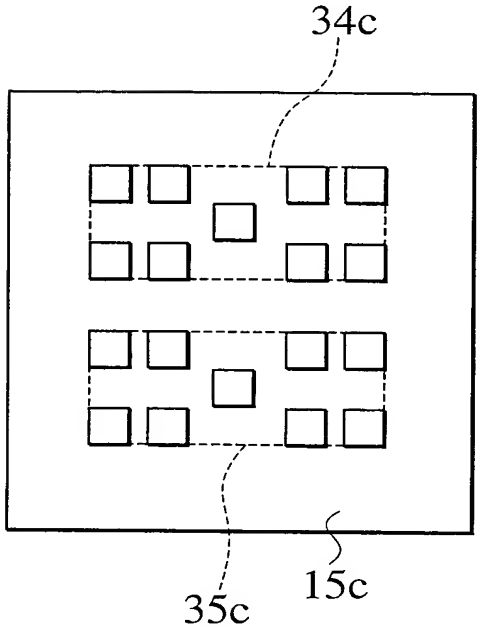

FIG.17C

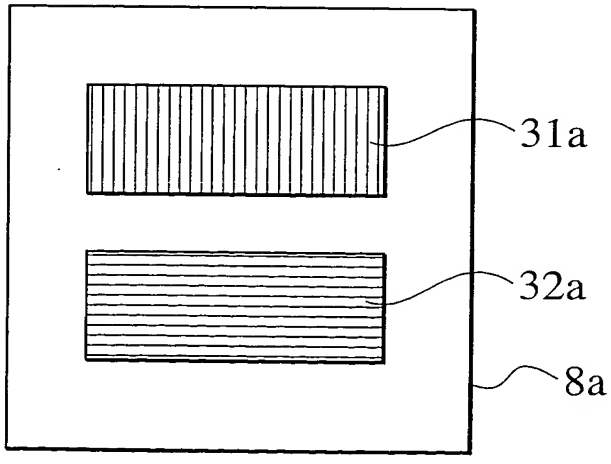
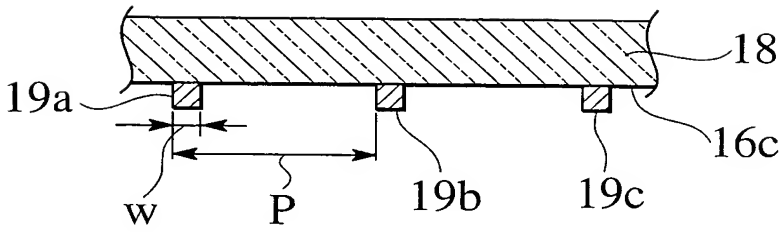
FIG.18